

DUST COLLECTORABSTRACT

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10 A dust collector (10) has a main body (12), the interior
of which is divided by a tubular partition wall (26) into a
central filtration chamber (30) and an outwardly-located
annular cyclone chamber (32). At the upper part of the cyclone
chamber (32), there is provided a water supply pipe (36) having
radially directed nozzles (38) adapted to form a water film
flowing down along the inner circumferential surface of the
main body (12) and the outer circumferential surface of the
15 partition wall (26), respectively. Air to be treated is drawn
under suction through an air intake (34) into the cyclone
chamber (32) and swirling air is brought into contact with the
water film whereby dust and particles are preliminarily
collected while retaining an explosion-proof function. The
20 cyclone chamber (32) and the filtration chamber (30) are
communicated with each other at the lower portion thereof to
permit the thus pretreated air to be drawn into the filtration
chamber (30). Filters (44) are arranged in the filtration
chamber (30) so as to further collect dust and particles by
25 filtration. A small and compact dust collector capable of
effectively collecting fine particles and small in air-flow
resistance and pressure drop and having an excellent explosion-
proof capability can be provided.